

## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.



A radio talk by Dr. A. E. Brandt, Soil Conservation Service, broadcast in the Department of Agriculture's portion of the National Farm and Home Hour, Thursday April 2, 1942, over stations associated with the Blue Network.

U. S. Department of Agriculture

WALLACE KADDERLY: The goals for increased production of nearly all farm commodities are a challenge to farmers and ranchers all over America. They have no more land than before. Most farm equipment is a year older and new farm machinery is limited; there are fewer people available to do the work. The question is: how can they produce more in spite of these difficulties. A part of the answer, as Dr. H. H. Bennett and Ethan A. Norton of the Soil Conservation Service have said in recent Farm & Home Hour broadcasts, is that farming so as to conserve soil and water will increase crop and livestock production. Today Dr. A. E. Brandt, in charge of the SCS conservation experiment stations, is in the studio and I think perhaps he can tell us more about it. Dr. Brandt, I believe most people now realize the importance of soil conservation over a long period, but a lot of us have been wondering whether there are any simple conservation practices from which farmers can get immediate benefits.

DR. A. E. BRANDT: Yes, indeed. Many of our experiments indicate this. Contouring, for example, will often increase yields the first year. In a dry year, rows on the contour hold moisture during the growing season and help produce a good crop. Farmers have obtained increases of 25 percent of some crops by using a combination of contouring and strip cropping. A farmer near Fisco, New York, said he grew one-third more corn silage on two acres of land the first year he started strip cropping. A farmer in West Virginia wrote that he increased his acre yield approximately 35 percent by use of contour cultivation in strips. Another West Virginia farmer reported his per acre tomato yield had increased 30 percent as a result of strip cropping.

KADDERLY: Well, how about soybeans? We need a 54 percent increase in soybean acreage this year, but they're apt to aggravate erosion on sloping land I'm told. What can conservation do with soybeans?

BRADT: Contouring may generally be expected to decrease erosion and increase the yields of many crops. Records from Stephenson County, Illinois, show that soybeans grown on the contour out-yield those that were grown in rows running up and down the slope, and contouring holds soil in place too. Where contour farming is effective, increases of from 3 to 5 bushels of soybeans per acre the first year from this simple practice can be expected.

KADDERLY: Dr. Brandt, you have said contouring and strip cropping will help to increase production quickly -- the first year. Are there any conservation measures that you would add to the list for getting higher yields right now, this year?

BRANDT: Oh, Yes. There are a lot of things a farmer can do to increase his yields this year. For example, he can apply lime if his land needs it and be sure that no barnyard manure is wasted. These are very important. The quality of pastures can be improved by keeping the weeds and brush out and by liming, fertilizing, and reseeding, where needed. Contour furrowing in pastures on the heavier soils of many semi-arid sections conserves the moisture and keeps the grass green during the dry periods. Proper pasture management is essential. For instance, if a pasture is overgrazed and allowed to become weedy, stock won't gain much weight and may even lose. But usually if the pasture is properly taken care of, stock



will keep in good shape. On a place out in Oklahoma they put on about 2 pounds of beef per day per animal through proper pasture maintenance and management.

KADDERLY: Getting back to plowed fields -- I understand that in some parts of the country, mulching the soil will increase yields.

BRANDT: Yes, mulching is a good conservation practice, and particularly so in some of the semi-arid areas. Farmers can use straw or other crop residues as a mulch to conserve moisture and increase their yields.

KADDERLY: Will mulch actually increase yields?

BRANDT: Well, I shall give two examples of the effectiveness of mulching in some of the dryer regions. At Tetonia, Idaho the yield of wheat, obtained where the stubble was utilized on the surface as a mulch, was 3 bushels per acre more than where it was mixed with the soil or plowed under. At Lincoln, Nebraska in an experiment in which several methods of tillage were compared, sub-surface tillage with crop residues retained on the surface as a mulch, gave the highest yield of corn, 30 bushels per acre, as compared to 21 bushels per acre where the land was plowed and residues removed. As examples in the more humid areas, records of the New Jersey Experiment Station show that tomato yields have frequently been doubled by putting on 3 tons of mulch per acre. Mulching of raspberry fields increased yields from 35 to 75 percent. Mulching is good for grapes, too. On the farm of Dan Wickham near Hector, New York, straw mulching increased grape yields in one year about 2,000 pounds per acre. On another place by combining mulching and contouring we increased yields of grapes 1,900 pounds per acre.

KADDERLY: Then, if one conservation practice is good, two are better - is that true?

BRANDT: Frequently it is, depending on conditions and the practices selected. Usually a proper combination of several measures will do the job better - protect the soil and bring up the yields.

KADDERLY: Dr. Brandt, you have been talking about conservation measures that will increase production now. I wonder if you have any long time suggestions? Something in the nature of what you might call permanent conservation measures that would insure more soil protection and bigger yields for the future.

BRANDT: Yes, Wallace. Those things would include soil building rotations, terracing, and other conservation practices that wouldn't necessarily pay off the first season. The use of cover crops - leguminous crops wherever possible - is very important, too. It actually is possible to produce more corn in three years by growing a legume for green manure one year out of four than by growing corn on the same ground for four years straight. I'd advise starting out now with some of the simpler practices, then adopting a complete conservation plan over a period of years in order to prevent the soil-washing that would inevitably make yields decline.

KADDERLY: Then there are simple things farmers can do that will help increase yields this year - and things to do for the future! That's good news, Dr. Brandt - not only to the farmers who are eager to do their share in the war effort, but to the whole country. Thank you for telling us some things to do to help meet our production goals.